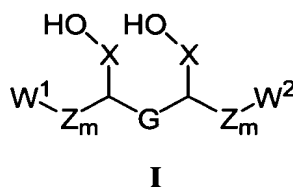


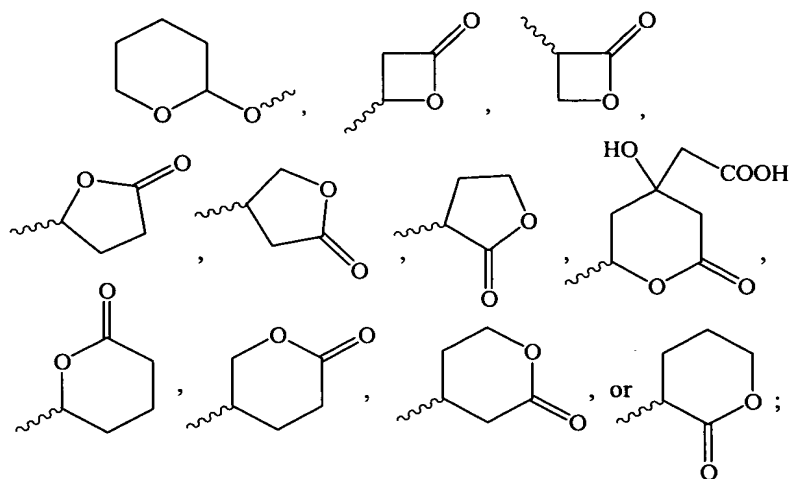
WHAT IS CLAIMED:

1. A compound of the formula I:

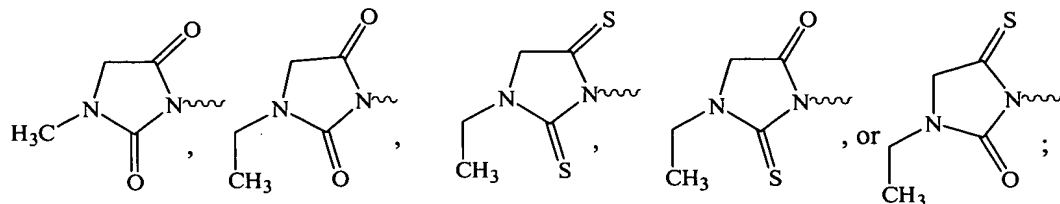
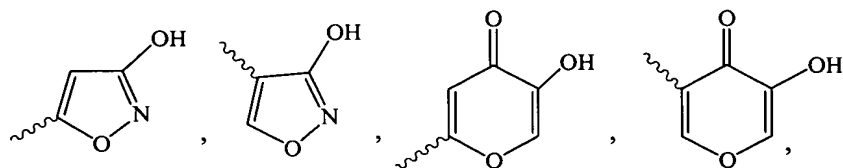
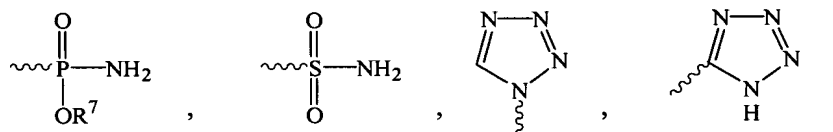
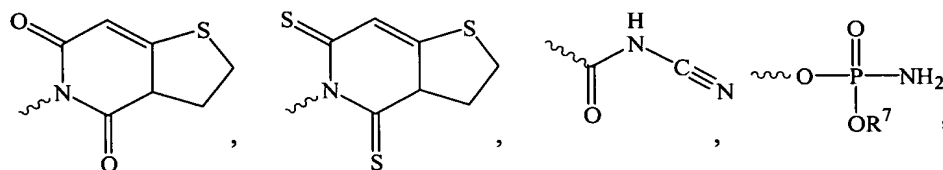
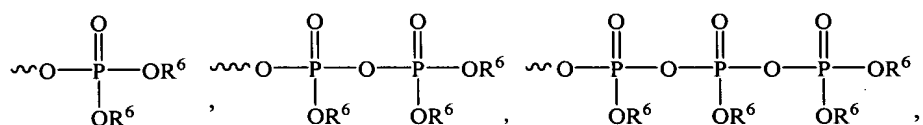


or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof, wherein

- 5 (a) each occurrence of Z is independently CH₂, CH=CH, or phenyl, where each occurrence of m is independently an integer ranging from 1 to 9, but when Z is phenyl then m is 1;
- (b) G is (CH₂)_x, where x is 1-7, CH₂CH=CHCH₂, CH=CH, CH₂-phenyl-CH₂, or phenyl;
- 10 (c) W¹ and W² are independently L, V, C(R¹)(R²)-(CH₂)_c-C(R³)(R⁴)-(CH₂)_n-Y, or C(R¹)(R²)-(CH₂)_c-V where c is 1 or 2 and n is an integer ranging from 0 to 7;
- (d) each occurrence of R¹ or R² is independently (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, phenyl, or benzyl or when one or both of W¹ and W² is C(R¹)(R²)-(CH₂)_c-C(R³)(R⁴)-(CH₂)_n-Y, then R¹ and R² can both be H to form a methylene group; or R¹ and R² and the carbon to which they are both attached are taken
- 15 together to form a (C₃-C₇)cycloalkyl group;
- (e) R³ is H, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₁-C₆)alkoxy, phenyl, benzyl, Cl, Br, CN, NO₂, or CF₃;
- (f) R⁴ is OH, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, (C₁-C₆)alkoxy, phenyl, benzyl, Cl, Br, CN, NO₂, or CF₃;
- 20 (g) L is C(R¹)(R²)-(CH₂)_n-Y, wherein n is an integer from 0 to 5;
- (h) V is:



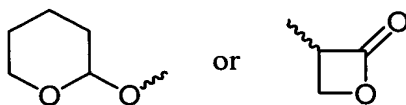
(i) each occurrence of Y is independently (C₁-C₆)alkyl, OH, COOH, COOR⁵, SO₃H,



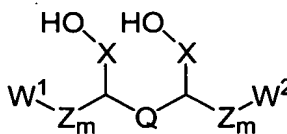
5

wherein:

- (i) R^5 is (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, (C_1-C_6) alkoxy, or phenyl groups,
- (ii) each occurrence of R^6 is independently H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, or (C_2-C_6) alkynyl and is unsubstituted or substituted with one or two halo, OH, (C_1-C_6) alkoxy, or phenyl groups;
- (iii) each occurrence of R^7 is independently H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, or (C_2-C_6) alkynyl; and
- (j) X is $(CH_2)_z$ or Ph, wherein z is an integer from 0 to 4.
2. The compound of claim 1, wherein G is $(CH_2)_2$.
3. The compound of claim 1, wherein each occurrence of Z_m is independently (CH_2) and m is 1-4.
4. The compound of claim 1, wherein each occurrence of W^1 and W^2 is independently L.
5. The compound of claim 2, wherein L is $C(CH_3)_2-(CH_2)-OH$
6. The compound of claim 1, wherein each occurrence of W^1 and W^2 is independently V.
7. The compound of claim 6, wherein V is

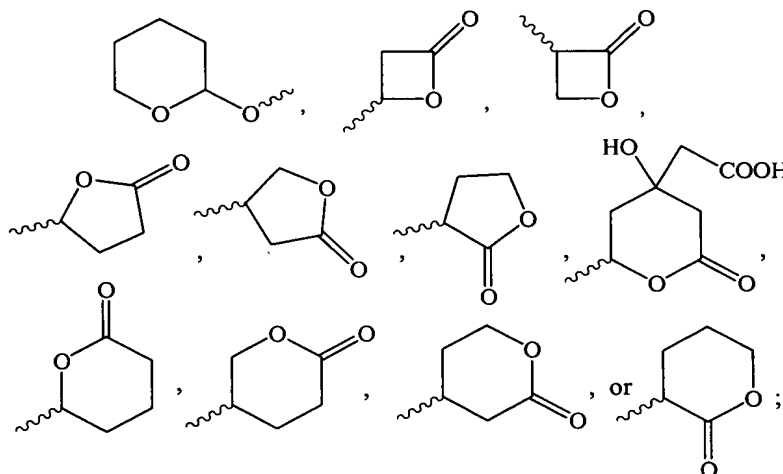


8. A compound of the formula II:

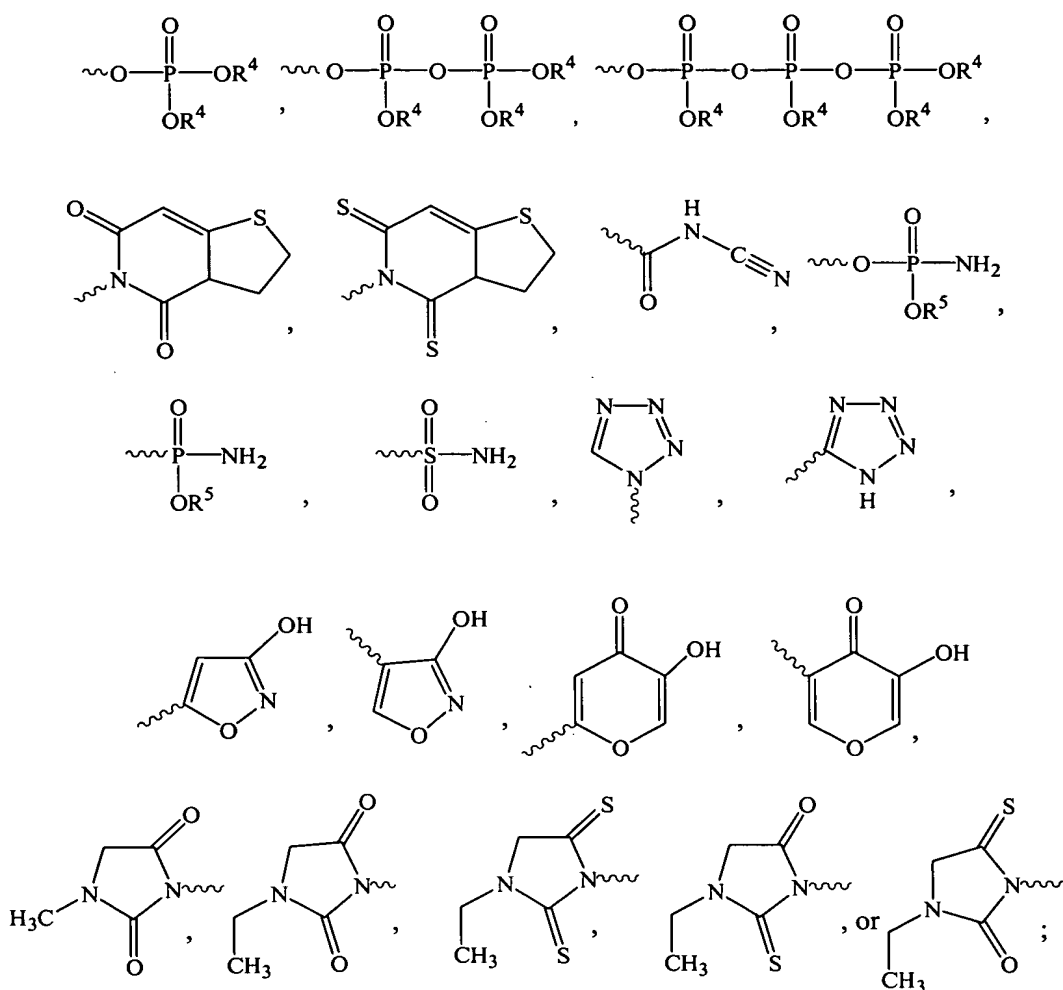


II

- 5 or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof, wherein:
- (a) each occurrence of Z is independently CH₂ or CH=CH, wherein each occurrence of m is independently an integer ranging from 1 to 9;
- (b) Q is (CH₂)_x, CH₂CH=CHCH₂, or CH=CH, where x is 2, 3, or 4;
- (c) W¹ and W² are independently L, V, or C(R¹)(R²)-(CH₂)_c-V, where c is 1 or 2;
- 10 (d) each occurrence of R¹ and R² is independently (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, phenyl, benzyl, or R¹ and R² and the carbon to which they are both attached are taken together to form a (C₃-C₇)cycloalkyl group;
- (e) L is C(R¹)(R²)-(CH₂)_n-Y, where n is an integer ranging from 0 to 5;
- (f) V is:



- (g) each occurrence of Y is independently (C₁-C₆)alkyl, OH, COOH, COOR³, SO₃H,



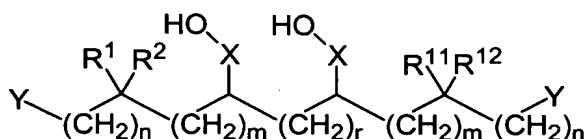
wherein:

- 5 (i) R^3 is (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, (C_1-C_6) alkoxy, or phenyl groups,
- (ii) each occurrence of R^4 is independently H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, or (C_2-C_6) alkynyl and is unsubstituted or substituted with
10 one or two halo, OH, (C_1-C_6) alkoxy, or phenyl groups; and
- (iii) each occurrence of R^5 is independently H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, or (C_2-C_6) alkynyl.

9. The compound of claim 8, wherein each occurrence of W^1 and W^2 is independently L.

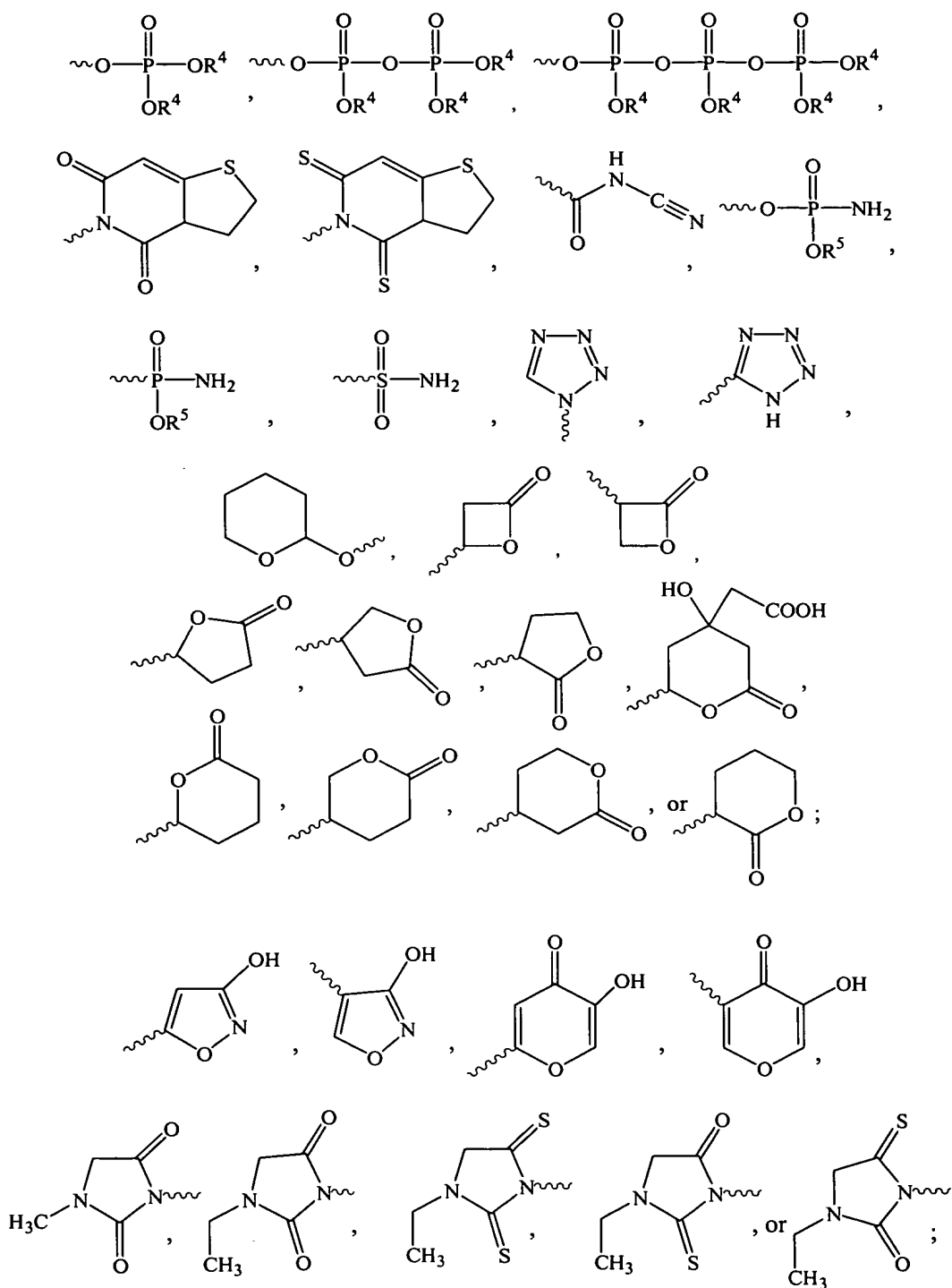
10. The compound of claim 9, wherein L is $C(CH_3)_2-(CH_2)_n-Y$.

11. The compound of claim 10, wherein each occurrence of Y is independently OH, COOR⁷, or COOH.
12. The compound of claim 8, wherein Q is CH=CH..
13. The compound of claim 8, wherein Z_m is CH₂ and m is 1-3.
- 5 14. The compound of claim 8, wherein each of W¹ and W² is independently C(R¹)(R²)-(CH₂)_x-V.
15. The compound of claim 14, wherein R¹ and R² are each independently (C₁-C₆) alkyl.
16. The compound of claim 15, wherein R¹ and R² are each methyl.
- 10 17. A compound of the formula **III**



III

- or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof, wherein:
- (a) each occurrence of m is independently an integer ranging from 1 to 9;
- 15 (b) r is 2, 3, or 4;
- (c) each occurrence of n is independently an integer ranging from 0 to 7;
- (d) each occurrence of R¹, R², R¹¹, and R¹² is independently (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, phenyl, benzyl, or R¹ and R² and the carbon to which they are both attached are taken together to form a (C₃-C₇)cycloalkyl group, or R¹¹ and R¹² and the carbon to which they are both attached are taken together to form a (C₃-C₇)cycloalkyl group; and
- 20 (e) each occurrence of Y is independently (C₁-C₆)alkyl, OH, COOH, COOR³, SO₃H,



5

wherein:

(i) R^3 is (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, (C_1-C_6) alkoxy, or phenyl groups,

(ii) each occurrence of R^4 is independently H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, or (C_2-C_6) alkynyl and is unsubstituted or substituted with one or two halo, OH, C_1-C_6 alkoxy, or phenyl groups;

(iii) each occurrence of R^5 is independently H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, or (C_2-C_6) alkynyl; and

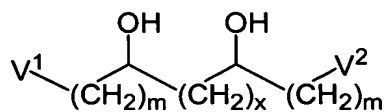
5

(f) X is $(CH_2)_z$ or Ph, wherein z is an integer from 0 to 4.

18. The compound of claim 17, wherein each occurrence of Y^1 and Y^2 is independently OH, $COOR^3$, or COOH.

19. A compound of the formula IV

10



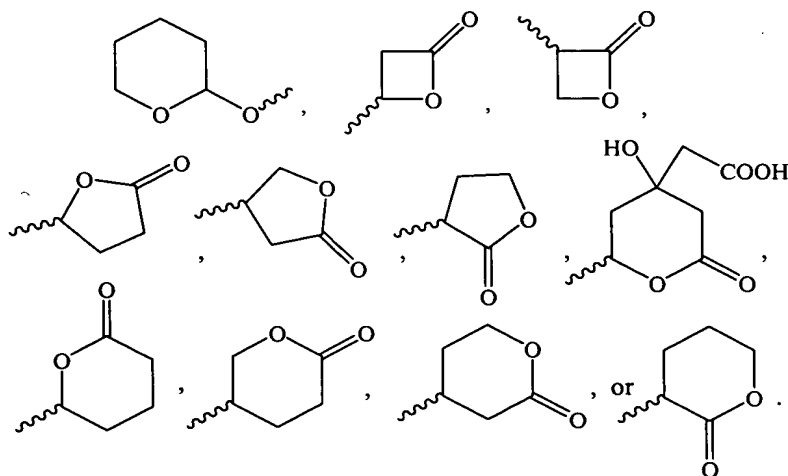
IV

or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof, wherein:

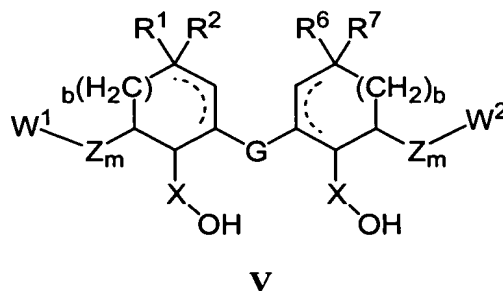
(a) each occurrence of m is an independent integer ranging from 1 to 9;

(b) x is 2, 3, or 4;

15 (c) each of V^1 and V^2 is independently:

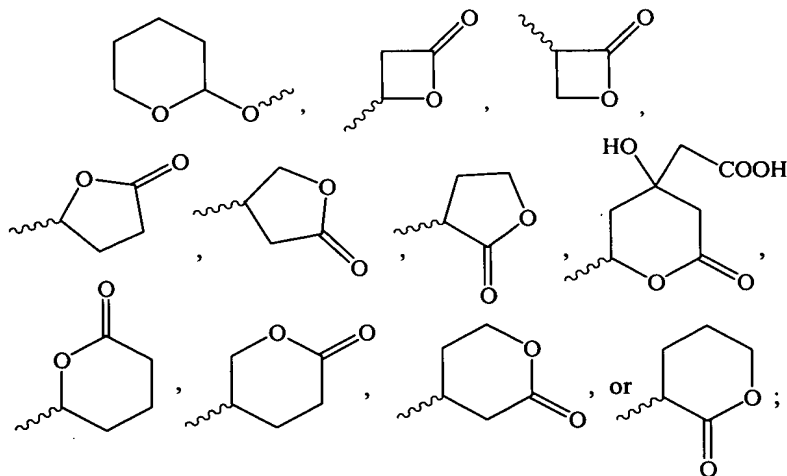


20. A compound of the formula V:



or a pharmaceutically acceptable salt, hydrate, solvate, or a mixture thereof, wherein:

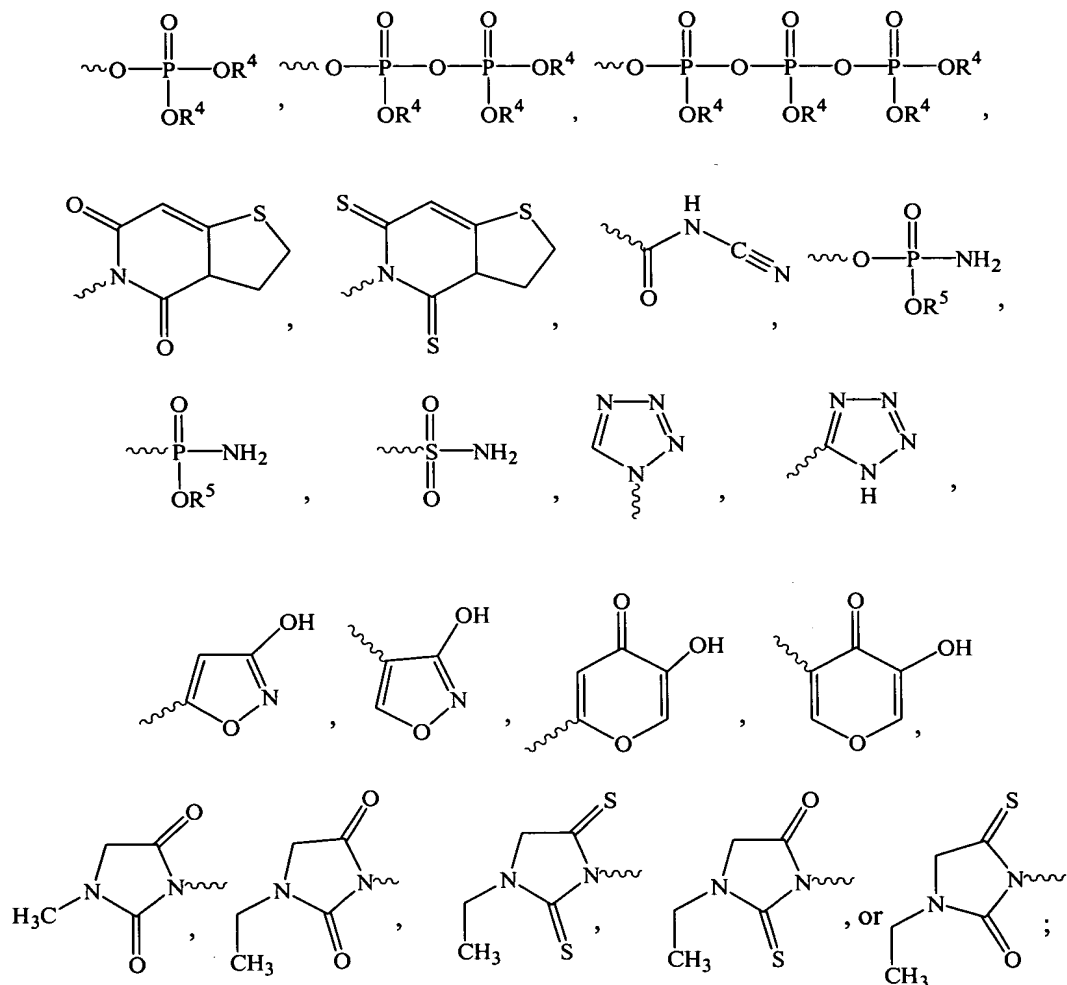
- 5 (a) each occurrence of Z is independently CH₂, CH=CH, or phenyl, where each occurrence of m is independently an integer ranging from 1 to 5, but when Z is phenyl then its associated m is 1;
- (b) G is (CH₂)_x, CH₂CH=CHCH₂, CH=CH, CH₂-phenyl-CH₂, or phenyl, where x is an integer ranging from 1 to 7;
- 10 (c) W¹ and W² are independently C(R⁸)(R⁹)-(CH₂)_n-Y, where n is an integer ranging from 0 to 7;



- 15 (d) each occurrence of R⁸ and R⁹ is independently H, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, phenyl, or benzyl or R⁸ and R⁹ can be taken together to form a carbonyl group;
- (e) each occurrence of R¹ and R² is independently H, (C₁-C₆)alkyl, (C₂-C₆)alkenyl, (C₂-C₆)alkynyl, phenyl, or benzyl or R¹ and R² can be taken together to form a carbonyl group or R¹ and R² and the carbon to which they are both attached are taken together to form a (C₃-C₇)cycloalkyl group;

- (f) each occurrence of R^6 and R^7 is independently H, (C_1-C_6) alkyl, or R^6 and R^7 can be taken together to form a carbonyl group or R^6 and R^7 and the carbon to which they are both attached are taken together to form a (C_3-C_7) cycloalkyl group;
- (g) Y is independently (C_1-C_6) alkyl, OH, COOH, COOR³, SO₃H,

5



wherein:

10

(i) R^3 is (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, (C_1-C_6) alkoxy, or phenyl groups,

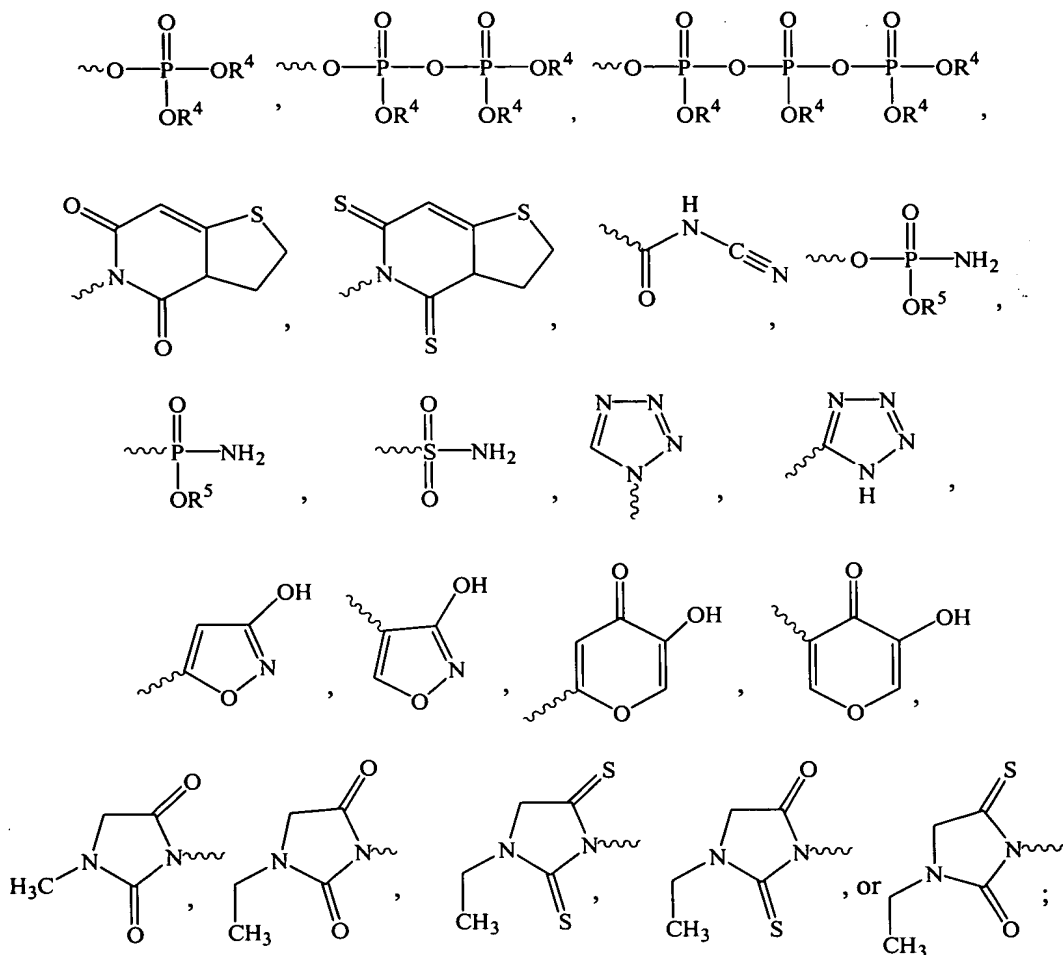
(ii) each occurrence of R^4 is independently H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, or (C_2-C_6) alkynyl and is unsubstituted or substituted with one or two halo, OH, C_1-C_6 alkoxy, or phenyl groups;

15

(iii) each occurrence of R^5 is independently H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, or (C_2-C_6) alkynyl;

- (d) each occurrence of R^1 or R^2 is independently (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, or R^1 and R^2 and the carbon to which they are both attached are taken together to form a (C_3-C_7) cycloalkyl group;
- (e) Y is (C_1-C_6) alkyl, $(CH_2)_nOH$, $(CH_2)_nCOOH$, $(CH_2)_nCOOR^3$, SO_3H ,

5



wherein:

10

(i) R^3 is (C_1-C_6) alkyl, (C_2-C_6) alkenyl, (C_2-C_6) alkynyl, phenyl, or benzyl and is unsubstituted or substituted with one or more halo, OH, (C_1-C_6) alkoxy, or phenyl groups,

(ii) each occurrence of R^4 is independently H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, or (C_2-C_6) alkynyl and is unsubstituted or substituted with one or two halo, OH, C_1-C_6 alkoxy, or phenyl groups,

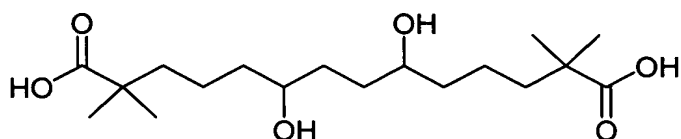
15

(iii) each occurrence of R^5 is independently H, (C_1-C_6) alkyl, (C_2-C_6) alkenyl, or (C_2-C_6) alkynyl;

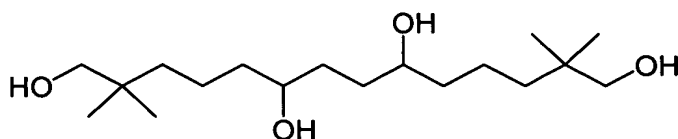
- (f) each occurrence of b is independently 0 or 1; and
- (g) X is $(\text{CH}_2)_z$ or Ph, wherein z is an integer from 0 to 4.

23. The compound 22, wherein each occurrence of W^1 and W^2 is independently $\text{C}(\text{R}^1)(\text{R}^2)-(\text{CH}_2)_n-\text{Y}$, groups and each occurrence of Y is independently OH, COOR^3 , or
 5 COOH.

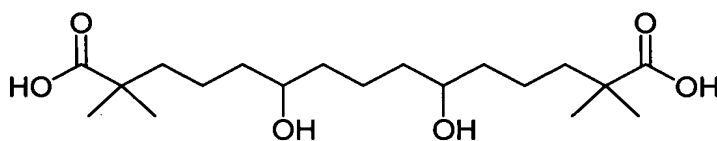
24. A compound of structure:



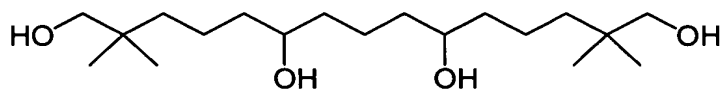
6,9-Dihydroxy-2,2,13,13-tetramethyl-tetradecanedioic acid;



2,2,13,13-Tetramethyl-tetradecane-1,6,9,14-tetraol;



6,10-Dihydroxy-2,2,14,14-tetramethyl-pentadecanedioic acid; and



2,2,14,14-Tetramethyl-pentadecane-1,6,10,15-tetraol.

25. A pharmaceutical composition comprising a compound of claim 1, 8, 17, 19, 20, 22, or 24 and a pharmaceutically acceptable vehicle, excipient, or diluent.

10 26. A pharmaceutical composition comprising a compound of claim 1, 8, 17, 19, 20, 22, or 24 and further comprising a second therapeutic agent.

27. A method for treating or preventing aging, Alzheimer's Disease, cancer, cardiovascular disease, diabetic nephropathy, diabetic retinopathy, a disorder of glucose metabolism, dyslipidemia, dyslipoproteinemia, hypertension, impotence, inflammation, insulin resistance, lipid elimination in bile, obesity, oxysterol elimination in bile, pancreatitis, pancreatitius, Parkinson's disease, a peroxisome proliferator activated receptor-associated disorder, phospholipid elimination in bile, renal disease, septicemia, Syndrome X, thrombotic disorder, modulating C reactive protein, or enhancing bile production in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or propyleutrally effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

28. A method for treating or preventing a cardiovascular disease in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

29. A method for treating or preventing a dyslipidemia in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically, effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

30. A method for treating or preventing a dyslipoproteinemia in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

31. A method for treating or preventing a disorder of glucose metabolism in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

32. A method for treating or preventing Alzheimer's disease in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

33. A method for treating or preventing Syndrome X in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.
34. A method for treating or preventing septicemia in a patient, comprising
5 administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.
35. A method for treating or preventing a thrombotic disorder in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19,
10 20, 22, or 24.
36. A method for treating or preventing a peroxisome proliferator activated receptor associated disorder in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.
37. A method for treating or preventing obesity in a patient, comprising
15 administering to a patient in need of such treatment or prevention a therapeutically or effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.
38. A method for treating or preventing pancreatitis in a patient, comprising
20 administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.
39. A method for treating or preventing hypertension in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.
40. A method for treating or preventing renal disease in a patient, comprising
25 administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

41. A method for treating or preventing cancer in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.
- 5 42. A method for treating or preventing inflammation in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.
43. A method for treating or preventing impotence in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.
- 10 44. A method for treating or preventing a neurodegenerative disease or disorder in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.
- 15 45. A method of inhibiting hepatic fatty acid synthesis in a patient, comprising administering to a patient in need thereof a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.
46. A method of inhibiting sterol synthesis in a patient, comprising administering to a patient in need thereof a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.
- 20 47. A method of treating or preventing metabolic syndrome disorders in a patient, comprising administering to a patient in need of such treatment or prevention a therapeutically or prophylactically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.
- 25 48. A method of treating or preventing a disease or disorder that is capable of being treated or prevented by increasing HDL levels, which comprises administering to a patient in need of such treatment or prevention a therapeutically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

49. A method of treating or preventing a disease or disorder that is capable of being treated or prevented by lowering LDL levels, which comprises administering to such patient in need of such treatment or prevention a therapeutically effective amount of a compound of claim 1, 8, 17, 19, 20, 22, or 24.

5 50. A pharmaceutical composition comprising a compound of claim 1, 8, 17, 19, 20, 22, 24, or 26 and a pharmaceutically acceptable vehicle, excipient, or diluent which is administered in combination with a statin.